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The Malthusian Paradox: Performance in an Alternate Reality Game

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Abstract. *The Malthusian Paradox* is a transmedia alternate reality game (ARG) created by artists Dominic Shaw and Adam Sporne played by 300 participants over three months. We explore the design of the game, which cast players as agents of a radical organisation attempting to uncover the truth behind a kidnapping and a sinister biotech corporation, and highlight how it redefined performative frames by blurring conventional performer and spectator roles in sometimes discomfiting ways. Players participated in the game via a broad spectrum of interaction channels, including performative group spectacles and 1-to-1 engagements with game characters in public settings, making use of low- and high-tech physical and online artefacts including bespoke and third party websites. Players and game characters communicated via telephony and social media in both a designed and an ad-hoc manner. We reflect on the production and orchestration of the game, including the dynamic nature of the strong episodic narrative driven by professionally produced short films that attempted to respond to the actions of players; and the difficulty of designing for engagement across hybrid and temporally expansive performance space. We suggest that an ARG whose boundaries are necessarily unclear affords rich and emergent, but potentially unsanctioned and uncontrolled, opportunities for interactive performance, which raises significant challenges for design.

Keywords: alternate reality game, ARG, pervasive game, hybrid performance spaces, player agency

Introduction

Alternate Reality Game (ARG) is a term often used to describe a game, or narrative, that is delivered to players and participants via a variety of different forms of media, for example via the Internet, social media, newspapers and physical artefacts or telephony, using voice or SMS, with the aim that this mixed use of media allows story, characters and interaction to develop to an extent that would not be possible in a mono-media context. ARGs may make use of concepts or technologies more commonly found in so-called *pervasive games*, for example spatial, temporal or social expansion – operating in large physical areas, lasting for an extended or apparently undefined length of time, and involving an unspecified or unclear cast of characters and players [20]. ARGs use these expansions in order to create the illusion of literally an alternate reality, or the illusion of not being in fact a game, while also framing themselves as being games, even through explicit denial. A fundamental tenet of many ARGs is “this is not a game”. These acts allow players to immerse themselves in the characters that they are playing within the game and, as Montola [20] describes, to pretend and perform belief collectively

contributing to the social expansion and the feeling of alternate reality. For this reason ARGs provide a compelling demonstration of performance as a social process, one that transcends narrative forms and professional creative practice and is manifest in everyday interactions and identity formation.

In collaboration with a community of alternate reality gamers and developers, McGonigal developed the following definition: *“alternate realities are the antiescapist game... designed to make it easier to generate the four intrinsic rewards we crave – more satisfying work, better hope of success, stronger social connectivity, and more meaning... In other words, ARGs are games you play to get more out of your real life, as opposed to games you play to escape it.”* She argues that *“because ARGs are played in real-world contexts, instead of in virtual spaces, they almost always have at least the side effect of improving our real lives.”* [17]

Regardless of the form of the media, ARGs often involve players performing a number of feats to uncover or gain access to an understanding of the underlying narrative. These might include puzzle solving or code breaking, interaction with in-game characters potentially played by live actors, or so-called scavenger hunts, searching online or physical venues for clues or artefacts. The spatially expansive, or physically distributed nature of these tasks, for example, necessitates the inherently communal nature of ARGs, with each player contributing their own skills, or even simply geographic location, towards solving the common goal.

I Love Bees [18] was an ARG that was developed in order to serve as a marketing campaign for the computer game Halo 2. The ARG's narrative was not immediately apparent to players, instead consisting of a *distributed* narrative consisting of many hundreds of small fragments, emails and MP3 recordings, scattered across the Internet or slowly released to different players, requiring the community of players as a whole to operate together in order to piece together and understand the narrative of the game. Ultimately the game involved physical interaction, including assembling at particular GPS coordinates, or organised face-to-face meetings between characters and the players who travelled to visit them. Project APE [23] was an ARG used to promote the film Planet of the Apes, which built itself upon the existing GeoCaching phenomenon, existing solely as a number of caches that players had to physically locate – in this case the locations of the key places within the game are known, however the details of the narrative are unknown until the caches are discovered.

“Alternate Reality Games take the substance of everyday life and weave it into narratives that layer additional meaning, depth, and interaction upon the real world”, functioning by means of *“the insertion of additional slices of reality into our own, and the only demand is that you interact with these as yourself”* [15]. Of course, performance (the adoption of a persona in relation to the story world) is central to playing an ARG, but the rootedness in (physical, temporal) reality that the connection to individual lived experience establishes is stronger than with other forms of game (e.g. MMORPG) or interactive narrative (e.g. Choose Your Own Adventure books). Although ARGs are relatively new, and sparsely populated as a genre compared to existing forms of game play, their communal nature, potentially large audiences, and highly pervasive nature notably support rich elements of performance and interaction by players, and consequently new opportunities for entertainment and academic communities, particularly theatre studies, HCI and CSCW, making them an apposite topic of discussion in this special issue.

This paper presents a study of The Malthusian Paradox (TMP), an ARG developed and deployed in September 2012 by the artists group Urban Angel, which is directed by Dominic Shaw and Adam Sporne. The authors collaborated with them on the project in a research capacity, from the planning stage, throughout production and beyond the conclusion of the game. We offered technical support to the artists, documented their process and players' activities, and collected qualitative accounts of the experience from both perspectives. The game was hosted simultaneously in arts venues across four cities in the East Midlands region of the United Kingdom. 300 participants played it over a period of three months. TMP cast players as agents of a radical organisation attempting to uncover the truth behind a kidnapping and a sinister biotech corporation. It had a strong episodic narrative driven by professionally produced short films that attempted to respond to the actions of players. Players participated in the game via a broad spectrum of interaction channels, including performative group spectacles and 1-to-1 engagements with game characters in public settings, making use of low- and high-tech physical and online artefacts including bespoke and third party websites. Players and game characters communicated via telephony and social media in both a designed and an ad-hoc manner.

We will explore both the strategies employed by Urban Angel to create an ideal coherent pervasive journey for their players, and the consequences of those strategies for the actual journeys that resulted. Rather than see agency residing with either the producers or the audience, this article will explore how different forms of agency, which related to different components of the narrative, were fluidly and reactively negotiated throughout TMP's evolution. Such agency, and shifts in who could claim it, created an ambiguous but still important frame around the experience for both producers and players.

“It's Their Thing Now”

As above, central to much work that focuses on ARGs, transmedia and pervasive narratives is the notion of audience agency and power. Early precursors to the narrative forms demonstrated by TMP such as invisible theatre explicitly used their hybrid spaces to encourage political engagement and generate revolutionary movements. Augusto Boal identifies the potential for such forms to act in this way precisely through the shift in the audience's position, and so their agency: *“The spectator is less than a man and it is necessary to humanize him, to restore to him his capacity of action in all its fullness. He too must be a subject, an actor on an equal plane with those generally accepted as actors, who must also be spectators”* [3]. For Boal, the potential to bring the audience into a more participatory role, to shift them from spectators to subjects as actors with representational agency over their own experiences, allows a reconfiguration of their engagement with the narrative and, for him, its essentially political message, with liberating consequences. More recently, Lévy's concept of 'collective intelligence' [13] in which the players act not as individuals but as a group, combining brainpower and skills to complete tasks that they are unable to complete alone, has become a central component to understanding of transmedia narratives and ARGs. Henry Jenkins appropriates Lévy to highlight the importance of agency in such a process: *“For Lévy, at his most utopian, this emerging power to participate [in knowledge communities] serves as a strong corrective to those traditional sources of power, though they will also seek ways to turn it toward their own ends. We are just learning*

how to exercise that power – individually and collectively – and we are still fighting to define the terms under which we will be allowed to participate. Many fear this power; others embrace it” [11]. In both models, the collective act of interpretation becomes political, a display of power via participation.

It can be argued that ARGs draw on a trajectory of participatory art that stretches back to the early twentieth century. Certainly, by offering a fragmented transmedia narrative, often with an explicitly anti-authority tenor, the games invite players to question the logic and boundaries of the alternative reality represented. And, when they provide opportunities for physical involvement, ARGs reduce the distance between actors and spectators, giving the latter access to the process of production. This is not to argue that ARGs necessarily redefine power relations; the critique of participatory art is that it is “no more intrinsically political or oppositional than any other” [2]. By sharing some element of authorial control with players, the producers of ARGs encourage collaborative creativity and attempt to foster exciting and inclusive experiences. ARGs explore the equality of players as co-producers, through their interpretation of, and enriching responses to, the alternate reality, giving them agency in the unfolding of the game.

The appropriation of spaces for performance outside convention theatre buildings is a practice that historically *“represented a reaction to crises generated by bursts of modernization in society”* [6]. In a period of rapid digital innovation, ARGs have features that make them akin to a festival, *“the genre of cultural performance most capable of leading to the formation of new communities”*. In the case of most ARGs to date, including TMP, the game is a singular, unique event [10]. Players of TMP did not have to pay anything to participate, potentially opening up the experience to those who might not be able to access live performance for economic reasons. The producers of TMP looked to involve large numbers of people in a situated narrative linked to particular locations in the East Midlands. However, the community formed by ARGs is ephemeral, in the sense that it is unlikely to persist on an extensive level beyond the scope of the narrative itself.

The importance of agency does not always have overt political overtones and is similarly picked up elsewhere on work on ARGs that explores the importance of a ‘suspension of disbelief’. Jane McGonigal argues that immersion occurs in an ARG via players choosing to maintain the narrative’s integrity. This occurs through what she terms a ‘Pinnochio effect’. In this case, agency manifests through a will to believe the game’s reality, even when faced with its artificial nature, to *“wink back at the puppetmasters and pretend to believe”* [16]. O’Hara, Grian and Williams extend McGonigal’s work to argue that such suspension of disbelief is *“at times delicate and vulnerable. There were times when there were breakdowns in this behaviour and through these the real importance of this collective responsibility is revealed”* [21]. The communal experience enshrined in models of collective intelligence is entwined with a desire to uphold the integrity of an ARG’s narrative. Solving the narrative and ensuring that it remains intact are both matters for deliberate collective action on the part of the audience.

If agency is one key way to articulate the experience of ARGs, a second emerges from the fields of sociology and gaming. The work of sociologist Erving Goffman has been applied separately in the fields of HCI and theatre studies; it theorises the cognitive work involved in making sense of situated social experiences of various types, the ‘frames’ that determine the meaning of human interactions.

According to Goffman, frames are “*principles of organization which govern events – at least social ones - and our subjective involvement with them*” [8]. The frames within which different forms of behaviour occur and are understood are not immutable, they are socially contingent and rely upon learnt rules and conventions, which can evolve or be deliberately contravened. Goffman uses theatre-going as a metaphor for analysing everyday behaviour, one of the examples to demonstrate many elements of his theory, which is indicative of the performative nature of social structures and relations. ARGs such as those described above transform activities “*already meaningful in terms of some primary framework ... into something patterned on this activity but seen by the participants to be something quite else*”, a process Goffman refers to as ‘keying’. According to Goffman, play is an example of a keying: play fighting, for instance, resembles real fighting in many respects because the two share common features. In order for play to be engaged in participants must appreciate the original meaning of the activities and that alteration is taking place, and there need to be cues to indicate the period to which the transformation is restricted. A keying can serve to integrate very different activities into a coherent experience of play, analogous to the concept of *meaningful play* found in game design literature [25].

This concept of framing has also evolved through discussion of more explicitly ‘game’ scenarios. Huizinga’s concept of the ‘magic circle’ has been central to game studies theorisations of the gaming experience [25]. The magic circle conceptualises the gaming experience as bounded, with a division between the rule-dominated game space and the wider, non-game space. Management of this boundary acts to ensure the clarity of the diegesis and so becomes a key part of the production of such narrative forms. Jesper Juul [12] argues, “*It is a hallmark of a coherent world game that the bounds of the game space are reasonably motivated by the fictional world*”. Juul equally argues for the relative solidity of this boundary: “*Soccer is played within a designated playing field; a board game only takes place on the board*”. This solid boundary is even clearer in a digital game that “*only takes place on the screen and using the input devices (mouse, keyboard, controllers), rather than in the rest of the world; hence there is no ‘ball’ that can be out of bounds*”.

Elsewhere in mainstream narrative forms, some kind of spatial, temporal, technological or social boundary similarly tends to exist between the narrative world and its audience delimiting the start and end of that audience’s engagement – the cinema or television screen, book cover, the edge of the stage (even if that edge is indistinct or moveable), the curtain rising, the performers’ bows or closing credits. However, the boundaries of pervasive ARGs are by definition unclear, malleable or even absent. They are designed to bleed into and across the activities of daily life, appearing as if they were part of the players’ everyday lives. As we shall go on to see, TMP offers examples of how this occurred. Their very nature as pervasive comes into conflict with otherwise established needs to provide a frame or circle around a narrative or gaming experience. The increasing mobility of gaming technology similarly blurs any clear distinction between game and not-game [1][19][24]. Montola [20] describes pervasive games as breaking, or blurring the conventional magic circle, either through seemingly unbounded movement in space, unconventional or unending timelines, or most controversially socially expansive games in which the players’ and characters’ identities are not clearly revealed or believable. However, the framing of agency, or the balance of power, arguably can be thought of as being established and designed in the sense that the ‘creators’ are ultimately and completely responsible for the game structures in which players are operating. While Boal suggests that giving players agency within a game may give them political agency outside of the magic circle, and McGonigal describes

players' unspoken awareness of their defined agency within the magic circle, we argue that Montola's metaphor of breaking and blurring the magic circle is also applicable to the framing of player agency when contrasted with the agency of an ARG's producers in collectively shaping the boundaries of an unfolding game. It is then necessary to ask who is responsible for this framing in an ARG, or, with respect to game design, who is responsible for ensuring that the *"actions and outcomes in a game are both discernable and integrated into the larger context"* [25] – and the larger question of how this responsibility is negotiated and ultimately framed itself, if indeed it is. This article will continue this discussion by considering the production strategies employed by Urban Angel in TMP, and how these strategies led to consequences, but most notably examining this by framing the relationship between players and production.

By allowing movements through different spaces between the virtual and the physical, the public and the private, the individual and the collective, ARGs offer the chance to interrogate how the boundaries of narrative experience are formed. In particular, the fluid and hybrid nature of these boundaries can lead to potential problems for the production team in that they can lead to confusion or disengagement with the narrative. We will explore how this potential danger was managed by Urban Angel; and the role the players, and an unspoken negotiation of agency, played in this management.

Playing Experience of The Malthusian Paradox

TMP began with a lecture, which was given in a physical venue in four cities over the course of four days, and also broadcast live online. The lecture purported to be an opportunity to see Dr Solomon Baxter, a world-renowned environmental scientist, speak on a new discovery. The lecture was advertised via posters and fliers that also indicated that it was the opening of a new Alternate Reality Game, linking to *themalthusianparadox.com*, although the site initially revealed little additional information. The lecture itself was advertised in an exaggerated manner that hinted towards conspiracy theories and whistle blowing, with the tagline *find out what THEY don't want you to know*.

The lectures were attended by between 3 to 150 players across the four venues. Each lecture began with Dr Baxter, played by an actor, speaking for around twenty minutes on the evils of biotechnology, including pseudo-scientific jargon, in particular regarding a company known as TFT who are developing genetically modified crops, pesticides and herbicides. Three men wearing suits and brandishing guns suddenly interrupted the lecture, threatening the audience to remain in their seats, while they knocked Dr Baxter to the ground before bundling him out of the theatre. Two more game characters reacted to this disturbance in the auditorium – Rachel, Dr Baxter's daughter, and Alex, the founder of a resistance group known as AMBER, which is campaigning against the activities of TFT. While Rachel was distraught, Alex addressed the audience, imploring them to join AMBER and to help reveal the truth of Dr Baxter's discovery, ensure his safe return and to destroy TFT.

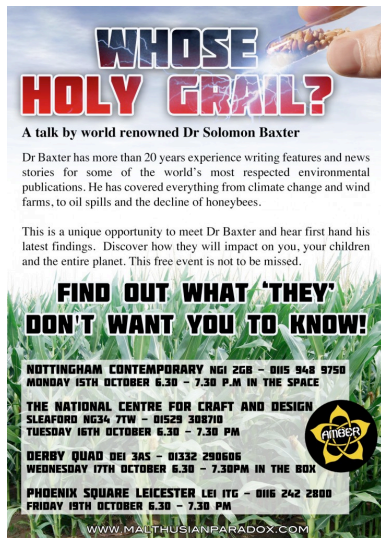


Figure 1: The flier (left), the lecture (right)

Consequently, the audience were given the opportunity to officially begin the game by 'enlisting' in the AMBER organisation. Each player provided details such as a code name, email address and phone number, and in return was given a number of postcards that foreshadowed and contained information required to solve a number of puzzles that would be included later in the game. Players could subsequently join via AMBER's website, a separate website from the official game site, in keeping with the notion that AMBER is a real organisation. In total approximately 300 players joined AMBER over the course of the game. Following the lectures, the game proceeded with a largely regular structure. Approximately every fortnight, a new episode of the narrative would be released to players, with each episode consisting of a short film of between 10 – 20 minutes documenting the continuing struggles of Rachel and Alex in trying to find Dr Baxter, and the on-going activities of the sinister TFT, but also containing hidden clues to forthcoming puzzles. Each episode was accompanied by a separate call to action from AMBER, requesting that players engaged in some form of activity, either online or by visiting one of the participating venues at a particular time. There were 6 filmed episodes in total, along with a number of long and short running and concurrent tasks to be performed.

The first episode following the lectures took place during a large, weeklong games festival, GameCity, based in Nottingham city centre. The large throughput of visitors to the event provided an opportunity for more players to sign up for the game, and existing players were invited to participate in a number of small activities during the festival. Alex and Rachel were present in character for players to interact with face-to-face and to receive more of the back-story of the game. A live graffiti demonstration revealed a second, visual clue towards the relevance of the previously received postcards, while players collectively hunted for Scrabble tiles and placed them on a board to uncover a further clue in the form of a message. In order to imbue the players with a sense of agency, belonging and ownership of the AMBER organisation they are incited into forming a very public protest march through the city, demonstrating against the activities of TFT. Similarly in a later episode players, or AMBER agents as they are referred to, were requested to create a public blog documenting their own activities, and further demonstrating their membership and association with AMBER.

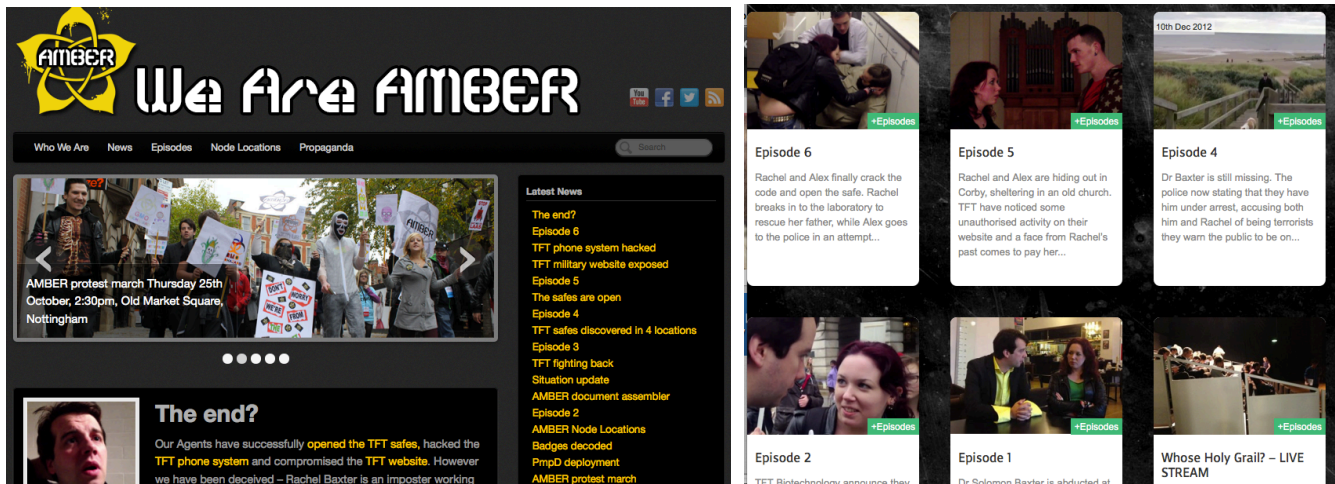


Figure 2: AMBER website inciting protests (left), TMP website showing episodes to date (right)

The episodes continued in a similar manner, with episode films and activities giving fragments of information to solve puzzles that led to further understanding of the on-going narrative, or uncovered a new direction or activity to take. These largely took the form of visiting a venue to engage in a face-to-face conversation with Rachel, Alex or one of the additional performers, or collecting a physical artefact, but also involved visiting a number of websites, sending SMS messages or making phone calls. As with previous ARGs, not all players were expected to, or even able to, attend all of the physical engagements or individually solve all of the clues, and as such were expected to work collectively and document and share their activities. Puzzles and clues in TMP were often deliberately abstruse, and required trial and error in order to understand them, or to know what subsequent action should be taken. Further clues were hidden in public blogs owned by the characters, or on their profiles on social media sites. The on-going activities of AMBER, both the characters and the players, were retrospectively documented via the AMBER website, in order for less engaged or active players to follow the narrative.



Figure 3: Shredded documents (left), opening the safe (right)

Often material received physically had to be used to solve puzzles digitally. For example, during one episode players who attended a meeting with a performer were given a small box containing several shredded documents (inspired by the DARPA shredding reconstruction challenge). Reassembling the shreds revealed several partially redacted letters between TFT executives; the contents that had been redacted were revealed in a later activity. An additional document was an image containing a phone number, and an image of the map from the book *Treasure Island*. Players needed to realise that the seemingly encoded numbers on one of the postcards indicated the phrase 'dead men don't bite' from the book, and if this phrase was sent via SMS to the phone number they received a further clue via an automated phone call. Other episodes attempted to engage the players with the 'reality' of the episodes, with Rachel and Alex observed obtaining some information in one of the films, which was physically given to players during face-to-face performances to subsequently use in an online task – for example receiving a DVD containing a video, a password with which to hack the TFT website and release sensitive documents, or a PIN to access the voicemail of TFT operatives, again via an automated phone system.

Conversely, some activities required players who were available to make use of information that the community of players had uncovered. One of the final payoffs for the players was to unlock one of four locked safes, one in each city, purporting to contain information regarding Dr Baxter's discovery. Again, previous clues provided ambiguous suggestions towards the code that would open the safe, ultimately requiring some degree of brute forcing a large number of potential codes. Once open, the safe revealed a mobile phone that automatically played out a video message from Dr Baxter, but also recorded the reaction of the player opening the safe via its camera.

As the game began to reach its conclusion it took on a darker, more sinister tone as the narrative was brought to a resolution. Dr Baxter is ultimately killed, and Rachel revealed in a final twist as being a double agent. Players were more deeply integrated with the theatrical nature of the performance and challenged on the nature of their involvement with AMBER. On visiting a venue in order to meet one of the characters, players were individually 'kidnapped' by TFT operatives, bundled into a waiting car before being driven to a sparsely furnished office, where they were interrogated as to what they knew regarding the story so far. Players subsequently boasted online about how little they gave away, essentially attempting to demonstrate their skill as players of the game.

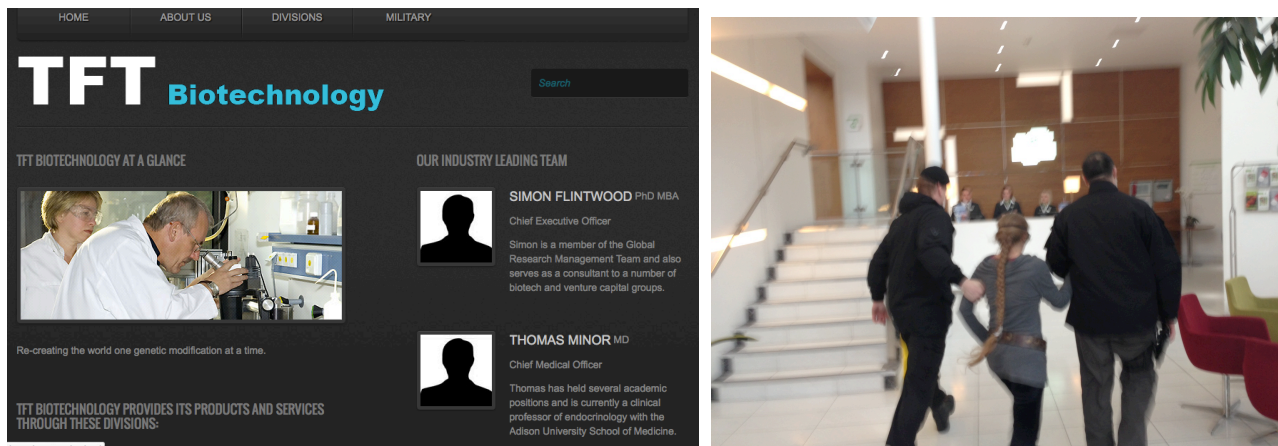


Figure 4: TFT website (left), TFT operatives kidnap a player (right)

The following sections present a study of TMP that covers the three-month period during which the game was played. We focus on how Dominic and Adam of Urban Angel, the producers of TMP, addressed the challenges of coming to terms with and understanding the hybrid, pervasive space that the game created. We also focus on the consequences of this space for the agency of Urban Angel as producers of the game, and the tensions of giving players space to perform and play, while simultaneously maintaining control of the unfolding game. Our study draws on multiple sources of data, from questionnaires and interviews with both the producers and players over the course of the game and afterwards, which give insights into their experience, to notes and observations that reveal the activities of the same, in order to provide a holistic account of TMP from multiple perspectives.

Controlling Hybrid Space

As already discussed, established media are framed by particular social, temporal, spatial or technological conventions of production and reception, from which expectations about the boundaries of a performance event and the role that audience members will play are derived. However, an ARG composed of various types of media is an unrestricted experience that can encompass different contexts and modes of engagement. TMP offered players a narrative experience that explored and experimented with multiple dimensions of transmedia storytelling: information was presented, but also had to be sought out; a mixture of individual and group interactions with the game took place in public and in private and blended fact with fiction; the substance of interactions was both physical and digital, both live and recorded; content was sometimes authored and sometimes improvised; the production created original material and appropriated existing resources; parts of the player experience were personalised and parts were generic. Given the inherent breadth of the game, it is important to consider how the producers of TMP attempted to manage an unbounded process of performative exchange over an extended period of time.

The lecture(s) that opened the game encapsulated the creative intention of exploding the boundary around performance space, through a violent rupture of that space that released the story into 'reality' and invited players to pursue it. The initial promotional materials for TMP presented it as *a unique ARG* with broad parameters, which would involve clues, interactions with characters, live events and *a global audience*. In some ways the scope of this original proposition reflected the narrative setup of

multinational biotechnology interests and a central character (Rachel) returning from travels to reconnect with her father (Dr Baxter), but it also suggests the extent of the opportunities for engagement envisaged by the project, which was designed to unfold in an online environment as well as in the host venues in the East Midlands.

The performative nature of this opening interaction was to some extent made clear, and a film-style trailer available on the game's website established this as a story that would conform to patterns familiar from mainstream media. At the same time, however, there was a strong intimation that the generic elements of mystery and suspense being introduced might develop in ways that would challenge normal conventions and invite players to participate in ways often unsanctioned in other performance spaces, as the publicity information stated: *If you attend be prepared for the unexpected – filming and photography is encouraged*. This suggested that the game would transgress another established boundary: that erected around copyrighted creative content, which gives producers a significant measure of ownership and authority over consumption of their work.

There was a distinct tension between fact and fiction in relation to the performance space in which TMP began. The flyer (Figure 1) produced by Urban Angel was double-sided: one side promoted *Whose Holy Grail? A talk by the world renowned Dr Solomon Baxter*; while the other side introduced the ARG as detailed above. This meant that, while the intention was for the audience to be cognisant of the nature of the experience as a performance of an alternative reality, people who picked up or were handed a flyer might have believed that they were being invited to attend a lecture by an expert environmental campaigner, if they did not read the reverse or made no conceptual connection between the two. The venues were plausible environments for a public presentation of this sort and Dr Baxter was described as a respected and prolific authority with *more than 20 years experience writing features and news stories on everything from climate change and wind farms, to oil spills and the decline of honeybees*.

The content and delivery of the lecture was such that its status as a performance of science was uncertain, which contributed to a sense of ambiguity about its 'true' purpose prior to the sudden invasion of the auditorium by the armed gunmen. Once this breach had occurred the performance space became porous and fluid with scripted character interactions, player registration and vox pops going on in the public areas of the venue. This was therefore a point at which audience members were asked to take on the role of player, embracing the fiction as something that would intersect with the reality of their lives and would take place outside the demarcated boundaries of traditional performance space. For audience members perhaps unfamiliar or uncomfortable with being given this type of agency over a narrative experience, this moment of transition could potentially present an obstacle to engagement, something that we will discuss further.

In subsequent elements of TMP the physical spaces of performance became even more difficult to distinguish from the surrounding context. The protest that was organised as a central activity at GameCity required players (and performers) to physically assemble in the centre of Nottingham, surrounded by shoppers and people going about normal weekday business, and to deliberately draw attention to themselves in a performative fashion, according to the conventions of public protest, by marching, chanting and carrying placards. The choice of this particular type of live group activity on the

part of the game's producers went beyond performing an alternate reality in public space because the nature of a protest is to increase the visibility of a cause and garner support for that cause. In this sense the protest served as a means to promote TMP and reach a wider audience of potential players. At the same time it also endowed the fiction of AMBER with apparent veracity by giving the impression that this was an organisation to which a group of people were committed on an ideological level and for which they would openly declare their conviction. As such it made an intervention into the wider world outside the alternate reality by demonstrating (in both sense of the word) the potential for public protest and the collective agency of UK citizens. As a consequence, the protest had the potential to have ramifications beyond the boundaries of the narrative and the community of players.

Within the game, the creation of anti-TFT and pro-AMBER placards, which was supported by online 'propaganda', increased the game's central dramatic tension by requiring hands-on investment on the part of players. And of course enacting a live group performance in public space entailed very real health and safety considerations, about which the project manager needed to brief participants beforehand, an incursion of usually concealed backstage concerns into audience experience, which framed that experience in terms of lived reality rather than performative illusion.

The expansive physical space that TMP inhabited was a source of creativity and improvisation, but also presented challenges to the game's producers. During the GameCity event 'special assignments' were rapidly devised and promoted on a daily basis, alongside the pre-planned activities throughout the week, in order to maintain the interest of those playing as part of the festival and to draw in the new recruits signing up each day. This fluid and responsive mode made it difficult to gauge the nature of individual player's involvement in TMP. The method devised to counter this was to issue each registered player with a unique QR code that could be scanned by performers at the start of interactions, ostensibly to verify the AMBER agent's 'identity' and affiliation, thereby providing a record of that interaction. A code was assigned at registration and if players then brought this in person to the AMBER recruitment desk in the GameCity tent they could exchange it for a dog tag that featured the AMBER logo on one side and QR code on the reverse. As well as serving a practical purpose for overseeing engagement with TMP, the idea was that the dog tags would provide players with a tangible and personal connection to the game world, a token that would be imbued with symbolic value. In this sense they seem to have achieved their purpose. However, as a means of monitoring and mapping live player interactions with TMP the tags proved to have limited effectiveness because the code label was quickly worn away through handling and rendered illegible. This technological frame (of handing over your dog tag to begin an interaction) ultimately failed to materialise and had consequences for the negotiation of agency, which we shall return to in the below section.

The producers of TMP experimented with providing different opportunities for player interaction with the game in public performance spaces. At regular intervals during the game, assignments were arranged in which players were invited to meet characters face-to-face in a public place (usually the host venues). These encounters allowed players to embody their AMBER agent personas, but they also provided a means for the game's producers to extract information about players' responses to the narrative and experience of TMP, to find out what they knew or suspected at that point in the process. Gleaning these insights required the performers to improvise carefully according to a predetermined

brief in order to discover more than divulge whilst maintaining character consistency and sensitivity to each player's particular understanding of the game. As such, these were difficult moments to control, an issue that we will return to presently.

A more indirect form of interaction with TMP in public settings was offered by AMBER nodes, which were installed at the four host venues, and constructed a virtual frame for the circulation of digital game-related content. Utilising an existing technology, the PirateBox, these broadcast a network in the immediate vicinity to facilitate file sharing by anyone with a Wi-Fi device. The origins of the underlying PirateBox technology as an illicit means of circumventing copyright restrictions, with connotations of covert activity and anti-establishment stance, fit with the story world being created. The chat function of the nodes could be used for initial, surreptitious contact between characters and agents without the latter having to immediately approach the former in person. The nodes were designed to function as a channel for *free and open communication* that players could utilise and appropriate in whatever ways facilitated their engagement with the story world and playing of the game. In this way the producers ceded some control over content generation and creative agency, in return for insights into their players. As it transpired, however, the nodes were not extensively used by players, seemingly because of the effort required to be in a particular location (which was *"just too busy... rather difficult to access"*) and go through the files looking for relevant information (*"it's quite confusing to find the right thing"*).

The nodes offered players one chance to engage in digital exchange with each other and the producers of TMP, in a way that neatly imitated a 'dead drop' in the physical world, but there were also a host of online spaces associated with the game that did not have the spatio-temporal restrictions on digital interaction that were attendant on the nodes. Much of the narrative material made available to players of TMP online was quite conventional in terms of its mode of address: it was one-to-many authored content expressed and delivered by means of digital formats. Some of the material made available online was bespoke, created specifically for the game, such as the six video episodes and websites for the in-game organisations like AMBER and TFT. In other cases, the game's producers appropriated third party online platforms and services to serve their storytelling purposes. That the TMP characters had a presence in the digital public sphere via LinkedIn, Twitter, Flickr and Blogger, meant that the boundary between the alternate reality of the game and the wider world was indistinct in digital interactions, just as it was in physical interactions.

Of course TMP players also drew on available online resources to facilitate and support their own interactions with the game independent of the digital framework that had been constructed by the production team. In the early stages of the game both a TMP wiki and a Facebook group were established and populated by players. These were digital spaces of paratextual [7][9] activity that needed to be folded into processes of narrative development and interaction design; this necessitated ceding and distributing creative control in ways which were, as we shall see, demanding to negotiate. One way in which the game's producers sought to control the distribution of information among players in digital space was to absorb this process within the 'official' structure of the experience via the assignment that asked agents to create a blog under their AMBER codename.

The producers of TMP also deliberately created new digital resources themselves in order to expand opportunities for interaction for the community of players, which was the function that the wiki and Facebook group served in a supplementary capacity by making publically visible personal in-game experiences through digital documentation and discussion. The assignment involving recovery of shredded documents included the rapid, parallel development of an online, interactive document assembler, which was made available to the all players online a few hours after the final opportunity to obtain the material in person had passed. In this way the digital aspects of the game served to broaden its potential to engage.

On other occasions technology was used to enable dynamic digital interactions that were planned but also had flexibility inherent in their execution, for example the phone-based system to which players had to text the phrase 'dead men don't bite'. In attempting to unlock the secrets of the system, players tried texting a variety of different things. The system was designed to automatically produce hostile responses if prompted in the 'wrong' way, but Adam realised that the players' experimentation presented an opportunity for additional interaction and began to manually input messages tailored to the players' tactics. So, what began as a chance to utilise another mode of narrative communication (telephony), became an opportunity for dialogic improvisation on the part of both producers and players.

The finale of TMP combined physical and digital elements for maximum impact, in a manner that proved to be just as adaptable as the 'automated' text messages. The safe installed in each of the venues would simultaneously play the video message from Dr Baxter and record anyone watching it. These reactions were collected and posted on the game's YouTube channel. While the intention was to surprise players and assimilate their individual experiences (in the form of unwitting performance) into the public record of TMP, these intentions were subverted in some instances. Players recorded the in-safe recording(s) on their own phones, physically concealed their identity, and even in one case presented a written response to the camera: 'STFU TFT! AMBER FTW!'. This particular interaction epitomises the complex performance dimensionality of the TMP experience, as a recorded fragment of narrative, delivered in a public space, elicits a situated response from a player, which is aimed at the producers, and is then disseminated by the producers online to the player community.

The Consequences of Hybrid Spaces for Production Design

Despite employing the strategies discussed above in an attempt to control players' pathways through TMP's hybrid space, and so the frame around the experience, Dominic and Adam of Urban Angel created a number of unintended consequences both for their role as experience designers and for the players. Throughout the game, there were a number of moments in which the game became a site of struggle for agency between the producers and its players. The producers were forced to negotiate over both logistical agency (how the game was run) and narrative agency (how the game's narrative would progress). Examining how this negotiation played out offers the opportunity to explore the consequences of constructing fictional worlds across hybrid space, where the player is positioned in different roles and in a different relationship to the text and its production. In particular it becomes possible to identify how agency itself functions as a frame around mediated experiences by examining

how that frame of agency – who is the creator of the experience and who is not – broke down during TMP.

The key consequence for the production team in terms of the game's live interactions was as a result of the blurring of boundaries between the fictional world and the wider world. Although digital spaces allowed a certain amount of such blurring, with narrative websites such as those for TFT and AMBER sitting alongside legitimate websites, and little indicating their fictitious nature, such hybridity came to the fore in the interactions that took place in public spaces. Despite the above described attempts to manage players' shifts between the hybrid spaces of the games, the fact that these live interactions were layered over the public spaces of daily life led to a number of complications and, ultimately, significant changes to the game's design.

The opening event of the game, the lecture by Doctor Baxter, offers an initial, dramatic example of the fluid boundaries of the game's hybrid spaces and raised a number of issues for the production team concerning the way it was framed. A number of audience members attended with the belief that it was a genuine lecture about genetically modified crops. At one of the lecture performances, one member of the audience had an explicit, performative response to Dr Baxter's kidnapping, rushing out after the kidnapping scene and attempting to intervene before production personnel could calm him down. Other audience members had a more sedate, but still negative response. As the following discussion demonstrates, this led to frustration within the production team who felt that they had made sufficient efforts in the promotional material they designed, such as flyers and posters, to establish the lecture as fiction:

DOMINIC: At Nottingham Contemporary people had really gone there thinking it was a real lecture about GM crops, rather than actually reading the flyer and seeing it said, right at the top, Augmented Reality or Alternative Reality game...

ADAM: Oh they were so pissed off. They stormed out of the bloody room... Owen, who was doing the lecture as Dr Baxter, said [the one in Sleaford] was the hardest one he did, because he came up, he started, and he said there were only, like two people in the audience, really. He said, the bloke turned to his wife and said 'that doesn't look like a professor'. And then basically all the way through they were just going 'that's not right', 'that's not right'.

The response of these audience members highlights the consequences of creating a game that exploits hybrid spaces and the fluidity such spaces can give to the boundaries between fiction and reality. Whilst the status of the lecture as fiction was presented in the paratextual material surrounding it such as leaflets and posters, such material can be missed [5], with potentially significant and dangerous consequences. The ambiguous framing of the game led to similar ambiguity in the agency afforded to those involved. By perceiving the lecture as genuine, the above affected participants acted in accordance with the agency such an event would give them – to try and stop an apparent kidnapping or to leave – even if this was not the actual agency offered by the producers. How welcome that agency was to those participants in the short or longer term is questionable.

Expanding the Scope of Performance

These responses to the lecture were particularly dramatic examples of the consequences of manipulating space into a hybrid alternate reality. However, other examples of such moments actually led to more complex responses from the production team and had a greater impact on the development of the game. The majority of these related to player responses to individual members of the production team, some of whom were clearly established as characters within the narrative and some who weren't. It is perhaps unsurprising that it was through character that the negotiation of agency appeared so explicitly. In traditional narrative forms, characters have long been considered the key point of audience engagement [5][14][22]. Within an ARG such as TMP, characters serve an even more fundamental role, being the player's key point of stability across the hybrid spaces of the game. Alex and Rachel appear in the live interactions, the episodes and in digital online spaces and so offer important coherence and consistency as the player moves through the game's hybrid space. However, the greater agency offered to, and taken by, the players led to a manipulation of the characters, only some of which was within the power of the production team.

The fluidity with which the game moved through public spaces and the ambiguity of its boundaries led to players ultimately expanding the game's story world to include additional members of both the production and research teams. A number of the volunteers who served a logistical role during the GameCity events, were integrated into the narrative by the players. One in particular, Loz, ultimately became a key figure in the latter stages of the narrative. Adam and Dominic described the process:

ADAM: The audience, sort of, didn't like Loz. It was really funny because Loz came to volunteer at first...he is a performer but he didn't come as a performer...He wasn't a character, he didn't exist in the game at all.

DOMINIC: Because Loz is really only meant to be there for GameCity and it's just that the players latched onto his character so much and...it would just be mad not to use him.

Despite merely being present in game-related spaces in order to facilitate the smooth running of the live interactions, the fact that Loz was present at all meant that he was available to the players as a narrative figure. A similar situation occurred when one of the research team was transformed from objective observer during the protest march in an enemy agent in the player-created wiki's report on the event posted on the wiki. The players used their personally controlled digital spaces (blogs, wiki and the Facebook page) to shape the narrative of the live events. At several points in the narrative, the players even expanded the boundaries of the narrative world to include members of the general public.



Figure 5: A member of the public (identity obscured by the authors) is incorporated into the narrative by a player

The picture in Figure 5 accompanied the wiki report on the protest march written by a player: *“Upon arrival at the Arts Centre, I circled the building and discovered two suspicious characters, one signalling our arrival to the other before disappearing under the carriageway. The signalled person was holding a distinctive orange and black backpack”*. As the producers described *“they [the players] created a load of characters that didn’t exist and there’s, like, photos of that guy with a backpack outside of Contemporary”*. Figures that would otherwise have only served a logistical purpose within the game’s design were suddenly transformed, given back-stories and integrated into the diegesis. The creation of additional online spaces shifted the frame of agency away from the producers as the players began to create the game narrative as well.

This hybridity had an impact on the daily lives of the actors appearing in TMP. The performer playing Rachel found that her role within the game bled into her daily, non-acting work life, with players discovering her outside of the game’s official narrative and engaging with her in character. She described how:

RACHEL: *There was one day I was at work and a player came in and was ‘oh my god, it’s Dr Solomon Baxter’s daughter!’ And I was like ‘Yes, don’t tell anyone where I am so TFT doesn’t find out. So tell me about the clues you’ve been figuring out, you’ve not worked that one out yet? That’s a shame isn’t it?’... it was just very, sort of, wow!*

This accidental meeting with one of the players, in a context that was outside the frame of the game for the performer but not for the player, demanded that her performance expand beyond the pre-

conceived boundaries of the game (and her acting contract). She was required to immediately shift from her real self to her performance self in order to maintain the integrity of the game narrative. However, whilst on this occasion the performer was able to successfully navigate the blurred boundaries of the game and the wider world, elsewhere this became more problematic and led to the game's most significant narrative change, when the character of Rachel was transformed into a double agent working for a previously unseen third organisation.

Rachel's transformation from distraught daughter to malevolent double agent began with a live interaction halfway through the game in which players met with the character face-to-face. Whilst the aim of the interaction from the production's point of view was to give players the next puzzle, in order for the performer playing Rachel to properly interact with them she needed to determine what parts of the game they had taken part in, and therefore which narrative points they already knew. The producers turned to the performers as a way to manage this:

ADAM: It was my brief to [the performer playing] Rachel and she followed my brief exactly, and my brief was to try and get as much information out of them as possible so we knew what was going on, but that sort of backfired.

The unintended consequence of this was that players grew suspicious of the number of questions Rachel was asking and, in line with the generic conventions of spy and conspiracy dramas that rely on deception [4], she was identified as a double agent:

PLAYER: One thing I noticed with Rachel was at the start she seemed to know a lot about what was going off and then when she said 'well what do you remember' she couldn't remember anything, you know? And it was from that [that we began] to say maybe we can't trust her.

Rather than resisting this transformation of one of their central characters, the producers decided to change her character arc and re-film the final episode:

ADAM: Initially Rachel was good and was the real Rachel but with everything going on it just seemed more fun and [the audience] had identified it and we thought, yes. And it gave us more stuff to play with in that respect.

In this case, agency over the interpretation of in-game characters shifted from the producers to the players, who re-interpreted Rachel's character against the way she was initially established. The established frame of creator/player partially broke down to the extent of significantly changing the game's narrative. Although this was ultimately the decision of the producers, it was motivated by the players asserting themselves in a position of greater control over their interpretation of the narrative.

Communicative Agency

The collective interpretation of Loz as an important character or Rachel as a double agent emerged from the second form of agency that was negotiated through TMP. This form can be termed communicative agency, or control over the conversations around the game, rather than the actual

development (or transformation) of the core narrative. The production had established a framework of digital spaces in which the players could discuss the game's puzzles and events. These spaces functioned to facilitate the 'collective intelligence' of the game, allowing players to share solutions to puzzles or offer descriptions of events to those who had missed them. They also established Urban Angel as the key creative agent shaping the game experience. The blogs were 'authorised' by them and promoted via the AMBER website, Twitter and email list, and so maintained a conventional frame of agency with Urban Angel as the producer/creator and the players as operating within the parameters they had set. Not long after the game's launch, however, the players began to seek control over these digital spaces of collaboration. One player created a wiki where players could upload crucial information or reports on the game's activities, whilst another created a Facebook page. Initially these were both set up to allow alternative spaces in which to engage with the game, with both players later reflecting on the websites as spaces to 'support' or simply 'talk to each other'.

At the same time, both the wiki and Facebook page allowed the players to discuss the game within personally created spaces that were in the control of the players, rather than the producers. When it became clear that the production equally had access to these spaces, players took a number of steps to prevent such access. One player created a cipher that would allow them to encode their messages to each other and the Facebook page was immediately made private. They explained the reasoning for doing this as an attempt to ensure that the producers did not disrupt the game by making it too difficult:

PLAYER: When all these ideas came about that they, you know, were using the Facebook group to deliberately make things more difficult, or they were going to plot things, it was kind of like we thought, okay, this might actually be a problem. We might be making it worse for ourselves communicating so openly.

Facebook became a site of negotiation over the game's paratextual conversations, with the players denying too much control for the producers by limiting their access to their gameplay processes. Again, the established frame of who is creator and who is not, who has power over the experience and who does not, broke down as the players asserted greater agency over their play.

For the producers, this lack of access was initially far more problematic than the reinterpretation of characters discussed in the above section. Being cut off from the discussions around the game made the producers feel they were missing large sections of the game's narrative development and, potentially, its quality:

ADAM: There's a lot of stuff we're missing, there's a lot of private conversations going on on Facebook chat and stuff that we just can't access. Like, when they doing all the text messaging they were all talking on Facebook, chatting, deciding what to text in. But we couldn't see that. And if I'd been there to see that I could have done the responses better.

Elsewhere, the producers displayed frustration at their inability to truly shape the experience and how the players created their own paths through the game. When referring to player responses to two

events – one the accidental appearance of random letters on an episode description and the other material the production team made available on a DVD – Adam demonstrated some of this frustration:

ADAM: *They've gone and found all of this weird stuff that I haven't done on purpose, some accidental letters that have gone on the YouTube video description, that's taken on massive significance, but they don't look on the bloody disk we give them. That's weird to me.*

The change to Rachel's character, or the expansion of Loz's, remained within the control of the production team (however inspired by the players they may have been). They maintained a more knowledgeable and authoritative position. However, losing access to the conversations around the game, and any ability to steer them, limited that knowledge. They had no way of knowing how well the individual puzzles were being received, whether they were being solved too easily or risked alienating players. It was this loss of agency that was the cause of greater anxiety to the producers than players reinterpreting the characters or the core narrative.

Ultimately, however, both sides reached a necessary truce by accepting a limited loss of agency on both sides. The players acknowledged that they could never really shut the production out: *"Once we made the group private we just accepted that, you know, if the production were going to do anything based on our Facebook group, they were going to do it"*. The producers accepted that they could lose a certain amount of knowledge about the gameplay whilst still creating a successfully responsive narrative: *"Now they're generally talking between themselves on Facebook and not telling us anything, really...it's their thing now, rather than our thing"*. Adam went on to say at a later interview that *"I'd always hoped that we'd get a wiki. Then I was like, oh no we're not in control of that. Then it was like, we don't need to be. That's the point"*. Within the design of the game, these player-produced digital spaces were integrated into the official narrative. Links to Facebook and the wiki were added to the homepage and the production team began using the cipher for official messages (one of the players independently programmed an online tool to automate the cipher, and a link to this was shared via the Facebook group), legitimising the players' control over their paratextual conversations. Any clear delineation between who was within the frame of creative agency and who was not was broken down.

Despite the potential for the kinds of moments discussed above to disrupt the game's narrative, the integrity of the diegesis was maintained via two key factors. The first was that rather than resist the players' attempts to maintain some level of control over their experience, the production team was happy to sacrifice a certain amount of creative control. They ultimately found value in *"A sort of symbiosis, and we're feeding off them, and they're feeding off us. Their ideas are changing our ideas, and vice versa... It's exciting, it's tiring though"*. The second factor was a clear desire on the part of the audience to maintain a narrative bubble around the game, the suspension of disbelief identified within previous work on ARGs [16][21]. The fluidity of the boundary between real and fictional space ultimately acted to the advantage of the production team, allowing that fluidity to explain any potentially disruptive clashes between the real world of production process and the narrative world of the characters. The very reason for Rachel evolving into a double agent in the eyes of the audience, as discussed above, was precisely the audience's desire for her behaviour to be justified within the narrative itself, rather than as part of the production process. Similarly, one player described how he would see several of the cast around the city, but was able to justify their presence in the city within

the terms of the narrative: *“the only times I bumped into characters was when they were supposed to be in the city. For example, Rachel and Alex obviously left town at various points – I think they went to the Yorkshire Coast or somewhere – and during that time I didn’t bump into them”*. Rather than explain such moments through the practicalities of the actor’s having non-TMP-related daily lives, he chose to explain their presence within the boundaries of the narrative.

Similarly, moments that were the result of the producers necessarily intervening in the running of the game were ultimately explained by the players equating the production team with TFT and AMBER. During the kidnappings the production team used information from players’ Facebook profiles in order to create a more personalised experience. One player had set up a fake Facebook account for the purposes of the game and so was disturbed when the kidnapping team used information from his real account. However, his response was to explain such an occurrence through the narrative world of the game, rather than break the diegesis: *“it made me think immediately, well, there must be some kind of leak in AMBER”*. They similarly equated the production team with the narrative organisations: *“I think the problem was the fact that [the producers] knew about it, meant that TFT knew about it”*. Another described making a conscious effort to ignore the production structure behind the game: *“I sort of deliberately didn’t want to see that part of it”*. In line with McGonigal’s theory of the ‘Pinnocchio effect’ [16], players expressed a desire to ensure that even when the fluid boundaries were tested, they would help the production stretch the narrative world over those boundaries. There was only one occasion in which this diegetic bubble was broken. A player was sent a text message purporting to be from AMBER that there was a charge to receive. Concerned, the player contacted AMBER to determine if it was legitimate. Although they sought to maintain the narrative illusion of AMBER, the production team immediately responded outside of that narrative frame to confirm the text’s illegitimacy and reassure the player of the game’s aims and processes. Whilst other occasions allowed for in-narrative responses, the potential threat of expensive unsolicited text messages forced them to break the bubble and respond as a production team rather than as in-game characters. Throughout the majority of the game, however, players were keen to maintain the appearance of an agency hierarchy. In focus groups, players would deny that they had impact on the game narrative. One described how *“the players could, you know, solve the puzzles and find out things but they couldn’t really feed that information back into the game”* and later said that *“it didn’t ever feel like the plot was changing because of what we knew”*. Even though the actual location of agency became more and more complex throughout the game, the players maintained a frame around their experience in which agency was primarily located with the producers, rather than themselves.

Conclusions: Agency as Frame

Our study of a live-action and performance focused ARG, The Malthusian Paradox, has revealed how professional artists worked to create an experience that aimed to be compelling and engaging, mixing live-action and face-to-face interactions with performers with a disparate collection of online and digital resources. We have seen how they developed a distinctive approach of constant assessment and reflection that was required to react to the fluid boundaries of the hybrid game space, which were constantly shifted due to the sometimes misguided rationalisation of the perceived narrative by players, or elements of the production process. We have also seen how the narrative and development of the game became an iterative process of game mastery rather than authorship, a requirement of

the necessary collaborative agency afforded to players of an ARG, with control shifting from game producers to players and back again constantly.

ARGs offer challenges to the simple social, spatio-temporal or technological framing of narrative or mediated experiences by deliberately blurring where and when the games exist. This case study, however, reveals the need to also consider agency as a framing device. TMP began with a clearly established 'frame of agency': Dominic and Adam as Urban Angel were responsible for the creation of the narration, the devising of the puzzles and the management of information; the players were responsible for solving the puzzles and facilitating the forward progression of the narrative. The experience was therefore framed by who was in a position of greater creative power (Urban Angel) and who was not (the players). As the game progressed this frame began to breakdown. At some points the players took greater agency over their own experiences, expanding the boundaries of the game by creating online spaces that they perceived to be outside the producers' control, if not their awareness. At other points the producers explicitly handed agency over to the players, allowing them to create new characters and ultimately choose how the game would end. However, throughout the game, players worked to maintain the integrity of the producers' agency by denying their own. For the players, their own agency, and their understanding of the limits of that agency, functioned as a way to frame their experiences, just as the television screen, proscenium arch or book cover does.

While TMP itself is arguably a unique experience in terms of narrative and game content [10], it embodies general principles that can be used by the developers and designers of future ARGs. The space of performance is distinctly hybrid, both in the sense of symbiotic and unclear relationships between players and producers that challenge conventional media and game design, and with performance occurring in public settings, both in ad-hoc online spaces, as well as designed physical interactions. Whilst real-world interactions can be the most engaging or visceral, the significant driving force of an ARG can be said to be the performance space that players create for themselves as a community collectively reaching a consensus regarding the unfolding story, and this can be challenging to monitor. Understanding how the players' understanding of their own agency frames their experiences is essential for ensuring that conflict does not emerge and undermine the integrity of the game narrative. It is through constant attention to detail in terms of both content and on-going events, more than just system maintenance, that the artists have been able deliver a successful experience.

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